

from a service provider, for receiving control information transmitted by a service provider, and for transmitting control information from the set top terminal to the service provider to interactively control the services that are being received. See abstract. Anderson fails to teach or suggest "receiving the analog broadcasting signal if the analog broadcasting channel is selected, **extracting a synchronous signal from the received analog broadcasting signal, adjusting the extracted synchronous signal to a synchronous signal of the digital broadcasting signal,** and separating the analog broadcasting signal into an analog broadcasting audio signal and an analog broadcasting video signal," emphasis added, as recited in independent claim 1. Accordingly, Applicants further assert that Anderson fails to teach or suggest, "**selectively encoding** the MPEG processed video signal separated from the digital broadcasting signal and predetermined additional information **according to the extracted synchronous signal,**" emphasis added, as recited in independent claim 1. Rather, Anderson describes an encoder using a digital video as well as a 27 MHz clock to generate luminance and chrominance signals as well as a composite video signal. See column 5, lines 58-62. There is no indication in Anderson that the selection is performed according to the extracted synchronous signal.

According to page 3, third paragraph of the Office Action, Anderson describes a multiplexer, under control of a video output selection line 178, selecting **either** luminance and chrominance signals as well as a composite video generated from the digital video **or** the luminance and chrominance signals as well as the composite video generated from the analog video signals as an output signal for the set top terminal. (Emphasis added). See column 5, lines 66-67, to column 6, lines 1-5. Further, Anderson describes subscriber instructions coupled from an IR receiver 208 to the FPGA 118 and, ultimately, to the microprocessor 126. See column 6, lines 53-58. The baseband video in Anderson is coupled to the OSD unit 136 that accepts commands from the microprocessor such that OSD functionality is provided in a conventional manner. However, neither the luminance and chrominance signals, the composite video generated from the digital or analog video signals, or the subscriber instructions are selectively transmitted "in accordance with the encoding selected in the encoding of the MPEG processed video signal," as recited in independent claim 1.

According to the Office Action, the additional information is provided by the infrared receiver 208 to the FPCA 118. However, Anderson limits its description by providing that the subscriber instructions are coupled from the IR receiver 208 to the FPGA 118 and, ultimately, to the microprocessor 126. See column 6, lines 53-55. There is no teaching or suggestion in

Anderson of “selectively encoding the MPEG processed video signal separated from the digital broadcasting signal and predetermined additional information **according to the extracted synchronous signal**,” emphasis added, as recited in independent claim 1.

According to page 3, fifth paragraph of the Office Action, Anderson describes an analog multiplexer selecting, under control of the microprocessor 126 via an I²C control 212, either of the audio channels **that corresponds to the video** that is then being presented to the output ports of the set top terminal. (Emphasis added) See column 6, lines 19-35. Accordingly, in Anderson, the analog multiplexer selectively transmits according to the corresponding video that is being presented, rather than “**selectively transmitting** the additional information overlapped with the analog broadcasting video signal separated from the analog broadcasting signal **and** the additional information overlapped with the MPEG processed video signal separated from the digital broadcast signal **in accordance with the encoding selected in the encoding of the MPEG processed video signal**,” emphasis added, as recited in independent claim 1.

Bretl generally describes a 525-line source 34 coupled to a second sync separator 36, which outputs the 525-line vertical sync signal to a second input 38 of the switch 26. See column 2, lines 60-67. In this case the vertical sync signal defines a series of equal vertical intervals of duration H/262.5. A second output of the sync separator 36 is the 525-line horizontal sync signal, 15.7 KHz, which is coupled to a second input 40 of the switch 32. However, Bretl fails to teach or suggest “**adjusting** the extracted synchronous signal to a synchronous signal of the digital broadcasting signal, **and separating** the analog broadcasting signal into an analog broadcasting audio signal and an analog broadcasting video signal,” emphasis added, as recited in independent claim 1.

Furthermore, according to Bretl, the PLL 42 includes a 47 KHz horizontal sweep oscillator which would lock to the horizontal sync signal of either the received NTSC signal or the received 787.5-line HDTV signal. The sweep circuit 44 is coupled back to the PLL 42 through a divide-by-three circuit 46. The output of the switch 26 is coupled to a vertical sweep circuit 48. The outputs of the sweep circuits 44 and 48 are coupled to the yoke circuits as is customary. See column 3, lines 1-10. However, similarly to Anderson, Bretl is silent as to providing “extracting a synchronous signal from the received analog broadcasting signal, **adjusting the extracted synchronous signal to a synchronous signal of the digital broadcasting signal**,” emphasis added, as recited in independent claim 1. Further, Bretl fails to teach or suggest “**selectively encoding** the MPEG processed video signal separated from the digital broadcasting signal and predetermined additional information **according to the extracted**

synchronous signal, emphasis added, as recited in independent claim 1. Bretl merely appears to describe a dual purpose receiver that receives and processes either 525-line NTSC signals or 787.5-line HDTV signals.

According to the Office Action, it would have been obvious to combine the teachings of Anderson and Bretl so that a dual purpose receiver can be built without buffering and rescan every frame in order to convert from NTSC interlaced scan to HDTV progressive scan, and thus, enable low cost receivers to be built. However, the Office Action fails to indicate where in either reference there is a need of building the dual purpose receiver without buffering. A rejection of a patent application for obviousness under 35 U.S.C. §103 must be based on evidence comprehended by language of that section, and search for and analysis of prior art includes evidence relevant to finding whether there is a teaching, motivation, or suggestion to select and combine references relied on as evidence of obviousness. See In re Lee, 61 USPQ2d 1430 (CA FC 2002). The examiner can satisfy the burden of showing obviousness of the combination "only by showing some objective teaching in the prior art or that knowledge generally available to one of ordinary skill in the art would lead that individual to combine the relevant teachings of the references." See id. at 1434. The Examiner combines the references without showing where in the cited references there is a showing or suggestion of the desirability to combine their teachings.

It is improper to merely deem something obvious without any teaching/suggestion from a reference. The Federal Circuit has cautioned that an Examiner must show reasons that the skilled artisan, confronted with the same problems as the inventor and **with no knowledge of the claimed invention**, would select the elements from the cited prior art references for combination in the manner claimed. In re Rouffet, 47 USPQ2d 1453, 1458 (Fed. Cir. 1998).

No such showing has been made in the present Office Action. It is submitted that the reason why no such showing was made is because the prior art of record individually or combined, fail to teach, suggest, or otherwise provide the motivation needed to make such a modification. "To support the conclusion that the claimed combination is directed to obvious subject matter, either the references must expressly or impliedly suggest the claimed combination. It is to be noted that simplicity and hindsight are not proper criteria for resolving the issue of obviousness." Ex Parte Clapp, 227 USPQ 972, 973 (B.P.A.I. 1985).

In view of the foregoing, even assuming arguendo, that the teachings of Anderson and Bretl were combined, the limitations of independent claim 1 would not be provided. For instance, the combination would not provide a synchronous signal extracted "from the received

analog broadcasting signal, adjusting the extracted synchronous signal to a synchronous signal of the digital broadcasting signal, and separating the analog broadcasting signal into an analog broadcasting audio signal and an analog broadcasting video signal,” as recited in independent claim 1. Further, the combination of the cited references would fail to provide, “selectively encoding the MPEG processed video signal separated from the digital broadcasting signal and predetermined additional information according to the extracted synchronous signal,” as recited in independent claim 1. It is respectfully requested that independent claim 1 and related dependent claims be allowed.

Independent claim 5 recites “an air tuner to receive the analog broadcasting signal according to the selection of the controller; a synchronous separation unit to extract a synchronous signal from the analog broadcasting signal received from said air tuner and to separate the analog broadcasting signal into an analog audio signal and an analog video signal; an additional information process unit to generate additional information according to a first one of the plurality of control signals from said controller; a video encoder unit to encode the MPEG processed video signal and additional information into an encoded analog video signal according to a second one of the plurality of control signals and the synchronous signal.” To reject independent claim 5, the Office Action refers to similar portions of Anderson and Bretl as those portions previously discussed and distinguished from the claimed features of independent claim 1. The arguments presented above supporting the patentability of independent claim 1 in view of Anderson and Bretl are incorporated herein to support the patentability of independent claim 5 and related dependent claims.

In addition, in previous Office Actions, it has been recognized that Anderson fails to teach or suggest an additional information processing unit. Bretl, in turn, fails to teach or suggest generating “**additional information according to a first one of the plurality of control signals from said controller,**” emphasis added, as recited in independent claim 5. Accordingly, Anderson and Bretl, individually or combined, fail to teach or suggest all the claim limitations of independent claim 5. It is respectfully requested that independent claim 5 and related dependent claims be allowed.

Independent claim 11 recites “a synchronous separation unit to separate the analog broadcasting signal into a synchronous signal, an analog video signal, and an analog audio signal; a video encoder to encode a video signal from the digital broadcasting signal and the additional information according to the separated synchronous signal; and a video mix unit to

overlap the additional information with the analog video signal from the synchronous separation unit in response to the analog broadcasting signal being displayed, and to select the video signal from the digital broadcasting signal and the additional information in response to the digital broadcasting signal being displayed, to transmit an image signal.” Similar portions of Anderson and Bretl are referred to in the Office Action as those portions previously discussed and distinguished from the claimed features of independent claims 1 and 5. The arguments presented above supporting the patentability of independent claim 1 in view of Anderson and Bretl are incorporated herein to support the patentability of independent claim 11 and related dependent claims.

Neither Anderson nor Bretl teach or suggest “a controller to determine whether an analog broadcasting signal or a digital broadcasting signal is to be displayed, and to generate additional information . . . a video encoder to encode a video signal from the digital broadcasting signal and **the additional information according to the separated synchronous signal,**” emphasis added, as recited in independent claim 11. Accordingly, Anderson and Bretl, individually or combined, fail to teach or suggest all the claim limitations of independent claim 11. It is respectfully requested that independent claim 11 and related dependent claims be allowed.

Referring to independent claim 18, as previously set forth, Anderson fails to teach or suggest “a processing unit to process the digital and analog broadcasting signals in accordance with the selection by said tuning unit, and to synchronize phases of the digital and analog broadcasting signals upon the tuning unit changing selection between the digital and analog broadcasting signals,” as recited in independent claim 18. The arguments presented above supporting the patentability of independent claim 1 are incorporated herein to support the patentability of independent claim 18. Accordingly, it is respectfully asserted that Anderson and Choi, individually or combined, fail to teach or suggest all the claimed features of independent claim 18. It is respectfully requested that independent claim 18 and related dependent claim 19 be allowed.

Independent claim 20 recites “a processing unit to process the digital and analog broadcasting signals in accordance with the selection by said tuning unit, and including an **additional information processing unit to generate additional information corresponding to the digital and analog broadcast signals,** and a video mix unit to selectively output the processed digital broadcasting signal with the additional information and the processed analog broadcasting signal with the additional information, wherein the additional information corresponding to the digital broadcasting signal and the analog broadcasting signal are the

same." The arguments presented above supporting the patentability of independent claim 1 are incorporated herein to support the patentability of independent claim 20. Accordingly, it is respectfully asserted that Anderson and Brett, individually or combined, fail to teach or suggest all the claimed features of independent claim 20. It is respectfully requested that independent claim 20 be allowed.

According to the Office Action, the reason for a motivation to combine the teachings of Anderson and Brett to reject independent claims 5, 11, 18, and 20 is the same as the motivation provided to combine these references to reject independent claim 1. Thus, the arguments presented above supporting improper motivation to combine the references are incorporated herein.

CONCLUSION:

In accordance with the foregoing, it is respectfully submitted that all outstanding objections and rejections have been overcome and/or rendered moot, and further, that all pending claims patentably distinguish over the prior art. Thus, there being no further outstanding objections or rejections, the application is submitted as being in condition for allowance, which action is earnestly solicited.

If the Examiner has any remaining issues to be addressed, it is believed that prosecution can be expedited by the Examiner contacting the undersigned attorney for a telephone interview to discuss resolution of such issues.

If there are any underpayments or overpayments of fees associated with the filing of this Amendment, please charge and/or credit the same to our Deposit Account No. 19-3935.

Respectfully submitted,

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